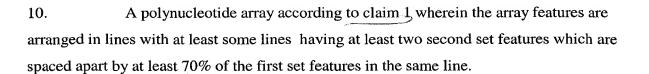
## WHAT IS CLAIMED IS:

- 1. A polynucleotide array comprising:
- (a) a first set of multiple features each of which has first polynucleotide molecules of at least 400 nucleotides in length; and
- (b) a second set of features each of which has second polynucleotide molecules of no more than 100 nucleotides in length.
- 2. A polynucleotide array according to claim 1 wherein the ratio of first set features to second set features is at least 10/1.
- 3. A polynucleotide array according to claim 1 wherein the ratio of first set features to second set features is at least 20/1.
- 4. A polynucleotide array according to claim 1 wherein the first polynucleotide molecules are double stranded, and the second polynucleotides are single stranded.
- 5. A polynucleotide array according to claim 1 wherein the first polynucleotide molecules are from enzymatic processing of one or more longer polynucleotides, and the second polynucleotide molecules are synthetic.
- 6. A polynucleotide array according to claim 1 wherein the first polynucleotide molecules have a length of at least 500 nucleotides.
- 7. A polynucleotide array according to claim 1 wherein the first polynucleotide molecules have a length of at least 1000 nucleotides and the second polynucleotides have a length of no more than 80 nucleotides.
- 8. A polynucleotide array according to claim 6 wherein the lengths of the first and second polynucleotides exclude the lengths of any polynucleotide stilt portions.
- 9. A polynucleotide array according to elaim 1 wherein the array features are arranged in a rectangle with second set features at least at the corners of the rectangle.



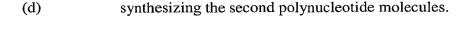
- 11. A polynucleotide array according to claim 1 wherein at least 70% of a second polynucleotide sequence is not contained within a first polynucleotide sequence.
- 12. A polynucleotide array according to claim 11 wherein at least 70% of the majority of second polynucleotide sequences is not contained with a first polynucleotide sequence.
- 13. A polynucleotide array according to-elaim 1 wherein none of the second polynucleotide sequences is contained within a first polynucleotide.
- 14. A polynucleotide array according to claim 1 wherein the sequence of a second polynucleotide is contained within a first polynucleotide sequence.
- 15. A kit comprising:
- (a) a polynucleotide array having:
- a first set of multiple features each of which has first polynucleotide molecules of at least 400 nucleotides in length;
- a second set of features each of which has second polynucleotide molecules of no more than 100 nucleotides in length; and
- (b) polynucleotide controls which are, or their complements are, at least 70% complementary to sequences of respective second polynucleotides.
- A kit according to claim-15 wherein the controls or their compliments are at least 90% complementary to sequences of respective second polynucleotides.
- 17. A kit according to claim 15 wherein the controls targets are labeled.



- 18. A kit according to claim 15 wherein the ratio of first set features to second set features is at least 10/1.
- 19. A kit according to claim 15 wherein the ratio of first set features to second set features is at least 20/1.
- 20. A kit according to claim 15 additionally comprising instructions to expose the array to a sample and the controls or their complements.
- 21. A kit according to claim 20 wherein first polynucleotide molecules are double stranded and the second polynucleotide molecules are single stranded.
- 22. A method of fabricating a polynucleotide array comprising:
- (a) forming a first set of multiple features on a substrate each of which has first polynucleotide molecules of at least 400 nucleotides in length; and
- (b) forming a second set of features on the substrate each of which has second polynucleotide molecules of no more than 100 nucleotides in length.
- 23. A method according to claim 22 wherein the forming of the first and second sets of features comprises depositing drops containing the first and second polynucleotides onto the substrate.
- 24. A method according to claim 22 wherein the ratio of first set features to second set features is at least 10/1.
- 25. A method of fabricating a polynucleotide array comprising:
- (a) forming a first set of multiple features on a substrate each of which has first polynucleotide molecules of at least 400 nucleotides in length;
- (b) forming a second set of features on the substrate each of which has second polynucleotide molecules of no more than 100 nucleotides in length;

the method additionally comprising:

(c) enzymatically processing polynucleotides to obtain the first polynucleotide molecules; and

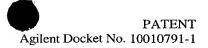


- A method according to claim 25 additionally comprising evaluating a yield of the enzymatic processing of step (c) for a failed product sequence which has a yield below a predetermined threshold, and synthesizing at least one second polynucleotide of at least 25 nucleotides in length having a sequence the same as a sequence within the failed sequence.
- 27. A method according to claim 25 wherein a sequence of a second polynucleotide is contained within a first polynucleotide.
- 28. A method according to claim 22 wherein the first polynucleotides are double stranded and the second polynucleotides are single stranded.
- 29. A method of using a polynucleotide array of claim 1, comprising:

  exposing the array to control targets—such that the control targets hybridize at least 100 times more efficiently to respective second features than they to any of the first features.
- 30. A method according to claim 29 wherein the array is additionally simultaneously exposed to a sample.
- 31. A method according to claim 29 wherein the control targets are from a kit, or are complements of control polynucleotides from a kit, which kit also contains the array.
- 32. A method according to claim 30 wherein respective second set features hybridize more efficiently with control targets than any of the first set features hybridize to any control targets.
- A method according to claim 29 wherein the targets are labeled.
- 34. A method according to claim 29 wherein the control polynucleotides are from a kit which also contains the array.



features in the image.



35. A method according to claim 29 additionally comprising:
reading the array to obtain an image representing the amount of
polynucleotides which have bound to first and second set features;
evaluating locations of first features in the image using the locations of second

36. A method of fabricating a polynucleotide array, comprising:
enzymatically processing one or more polynucleotides to obtain a set of
polynucleotide molecules in respective fluid samples;

removing solid particles; and

ejecting drops of the fluid samples containing the polynucleotides onto a substrate through an orifice of a pulse jet, which orifice has an area of less than 1 mm<sup>2</sup>.

37. A method according to claim 36 wherein the orifice has an area of less than .01 mm<sup>2</sup>.